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THE VIKING EIGHT



The Viking . . . a newcomer among fine cars . . . one vested with worthy associations . . . is the result of more than three years' development by Oldsmobile and General Motors engineers, working hand in hand. Only Viking offers the advantage of 90-degree, V-eight performance in the medium-price field. It is built to meet a growing public demand for an eight-cylinder car of General Motors quality at medium price. The Viking introduces to its field qualities of stamina, endurance, and brilliant achievement best typified by the intrepid spirit of the race from which its name is derived.

OLDS MOTOR WORKS · LANSING, MICHIGAN
DIVISION OF GENERAL MOTORS

T H E 9 0 - D E G R E E V - E I G H T A T M E D I U M P R I C E





LIKE A TRUE VIKING . . . THIS CAR HAS PROVED ITS MERIT



Viking! Instantly the name suggests tireless energy, rugged endurance, spectacular achievement. It is especially fitting that a new product of General Motors, built by Oldsmobile, and possessing the characteristics of the Viking, should bear this honored name. For centuries the Vikings fared forth from their homes . . . sailing uncharted seas . . . discovering new lands . . . conquering powerful peoples. There were none so strong, so hardy, or so brave as these fearless pioneers.

Their civilization was advanced far beyond their time. Their history reveals remarkable accomplishments in literature, art, ethics, navigation, and industry. Their courage, strength, and stamina founded a great and enduring tradition.

There was no place for a weakling among the Vikings. The Viking youth was deliberately exposed to the greatest hardships. No test was considered too exacting; no privation too severe. At the first sign of weakness, he was cast out by his people and left to forage for himself, much as the Spartan children were. From childhood, he was taught to be brave and unflinching in the face of danger. Fleetness, strength, and endurance were developed through rigorous training. Only those best fitted for leadership survived to contribute to the strength and superiority of the race.

The same unyielding process of elimination that led to Viking hardihood was applied in developing the Viking car.

Oldsmobile and General Motors engineers set out with one definite purpose—to build the finest eight-cylinder car possible to produce at a medium price. They approached the task with an open mind. They literally started from scratch. They investigated every type of eight-cylinder car, past and present. They built new cars; designed new engines; tried out new engineering principles.

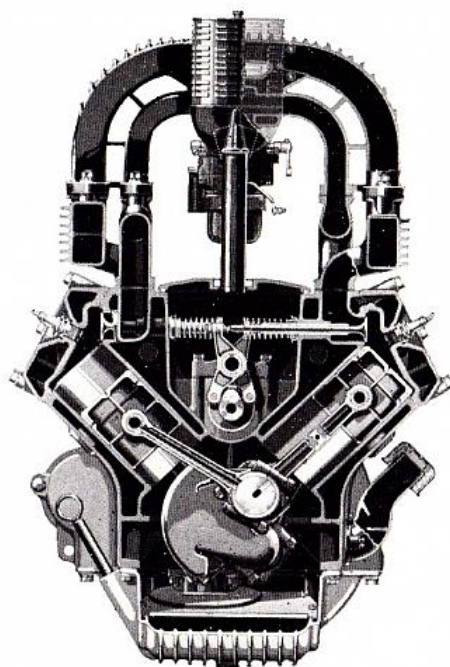
Fleets of all types were put to work to prove their merits through the racking strains of prolonged roadwork on the General Motors Proving Ground. Over every type of road and grade, and over a period covering both extremes of the thermometer, these fact-finding fleets were given the most grueling tests. Accurate records of results were kept and constantly compared.

Finally, by demonstrating unquestioned superiority over its rivals, one of these fleets won the right to the name of Viking. And an even larger fleet of this winning type was again placed on the Proving Ground—not to be pitted against others, but to be matched against the cherished ambition to build the best car in its field. And through the trials of months and miles this car confirmed its right to leadership.

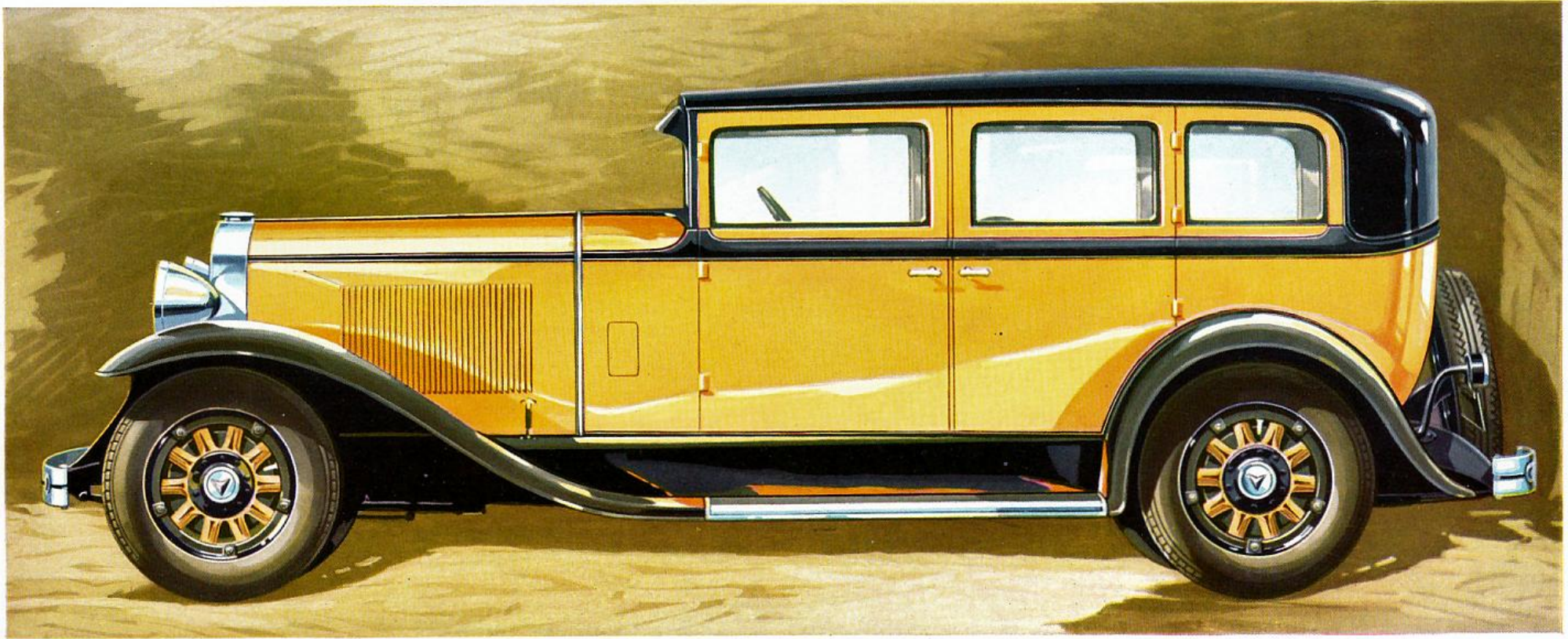
Thus, this new Viking, like the Vikings of old, is the survivor of rigorous testing. Thus, in the true Viking spirit, it has proved its ability, its strength, and its endurance. Thus it, too, has won its way to leadership.

EIGHT-CYLINDER SMOOTHNESS AT ITS BEST

THE Viking introduces desirable and exclusive new characteristics of performance—the result of new developments in the 90-degree, V-type principle, brought about by new engineering advancements based on well-established, time-proved fundamentals. The principle of 90-degree, V-eight engine design permits the use of two banks of pistons to propel a short, rigid, two-plane, counterbalanced crankshaft. The result is smooth, highly concentrated power. In the new Viking engine, power impulses occur at precisely equal and equally overlapping intervals—providing eight-cylinder smoothness at its best.



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VIKING FOUR-DOOR SEDAN

THE new Viking is particularly outstanding in performance. Its 90-degree, V-type, eight-cylinder engine delivers 81 horsepower, with exceptional smoothness throughout the entire speed range. Its response to the throttle is remarkable, both in get-away from a standing start and in acceleration at the higher speeds. Its top speed is greater than the average motorist will use and it provides a mighty power reserve for steep hills, long grades, and hard pulling. Self-energizing mechanical four-wheel brakes of the new two-shoe, internal-expanding type assure smooth, sure deceleration in keeping with Viking speed and get-away.

Thermostatically controlled full-length vertical radiator shutters add efficiency to the beauty of the deep radiator. Beauty is enhanced by the long-life luster of chromium plating

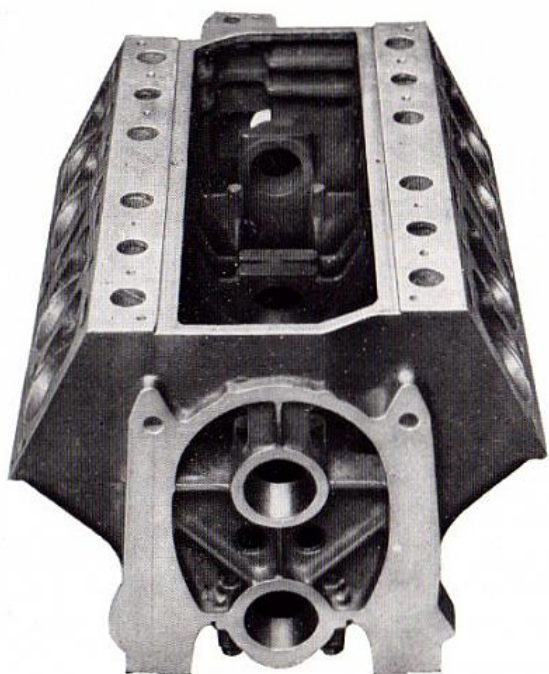


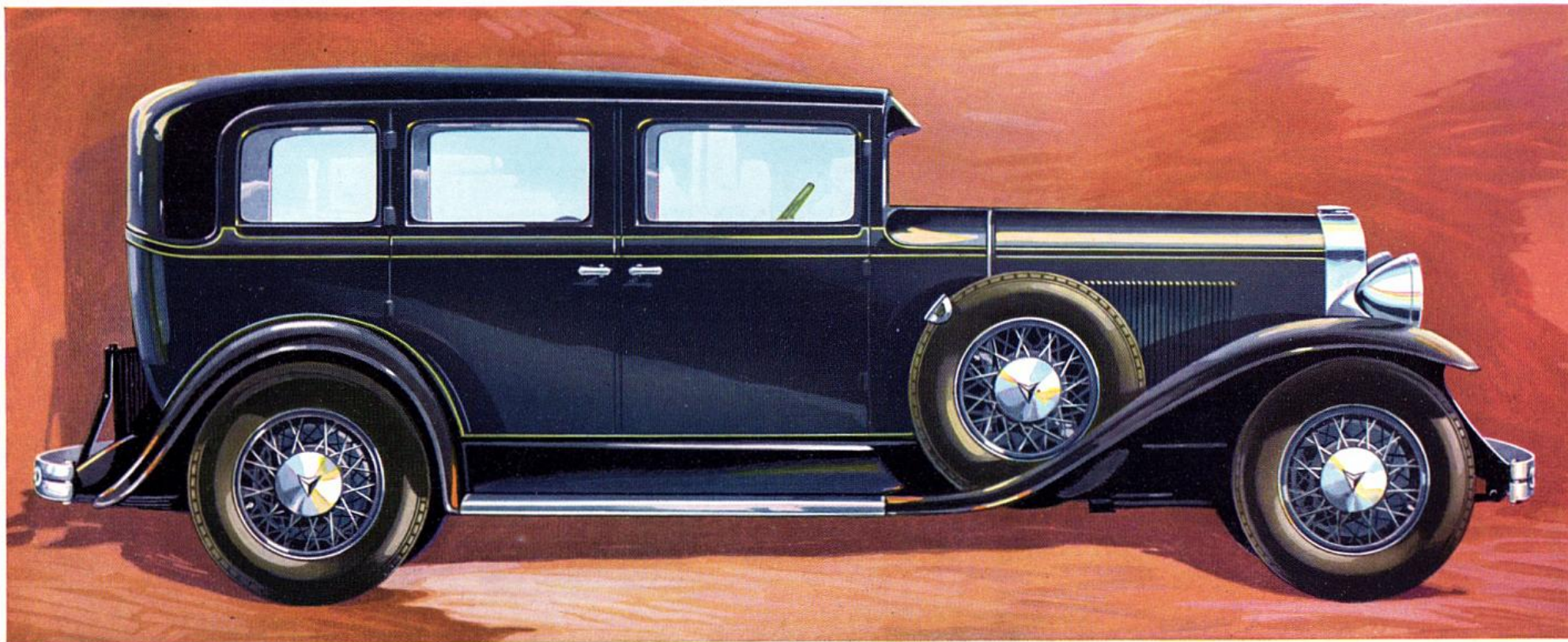
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T H E 9 0 - D E G R E E V - E I G H T A T M E D I U M P R I C E

RIGIDITY AND COMPACTNESS, CONTRIBUTING TO SMOOTHNESS AND LONG LIFE

MANY of the new features to be found in the Viking are made possible by integral construction of the entire cylinder block and crankcase in one unit—an advancement in V-eight design found for the first time in the Viking engine. It results in rigidity, accessibility, a new and desirable valve arrangement, and highly efficient cooling and lubrication. In addition to this feature, the natural compactness of the V-type engine, combined with the added strength obtained through ribbing and trussing the crankcase, provides exceptional rigidity—a vital factor in smoothness, quietness, and long life.

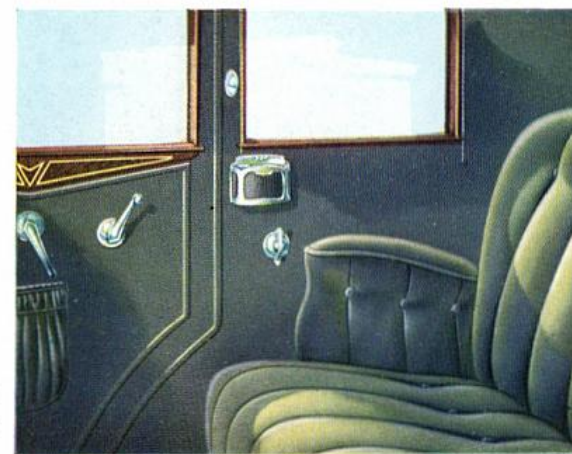




VIKING DELUXE FOUR-DOOR SEDAN

THE new Viking chassis has a wheelbase of 125 inches. The extra strong frame tapers to the front to permit a short turning radius, and is low dropped to provide a low center of gravity and maximum roadability. Every provision has been made for restful riding ease. Seats are wide, deep-cushioned, and comfortably form-fitting. Sedan rear seats are equipped with flexible arm rests. Head room and leg room is more than ample. Four Lovejoy hydraulic shock absorbers function in unison with the springs to smooth out road irregularities.

Walnut paneling, vanity cases, and genuine mohair upholstery create luxury unusual for a car of medium price

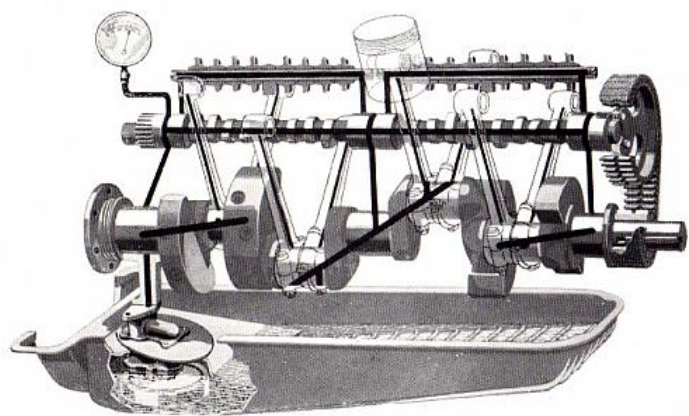


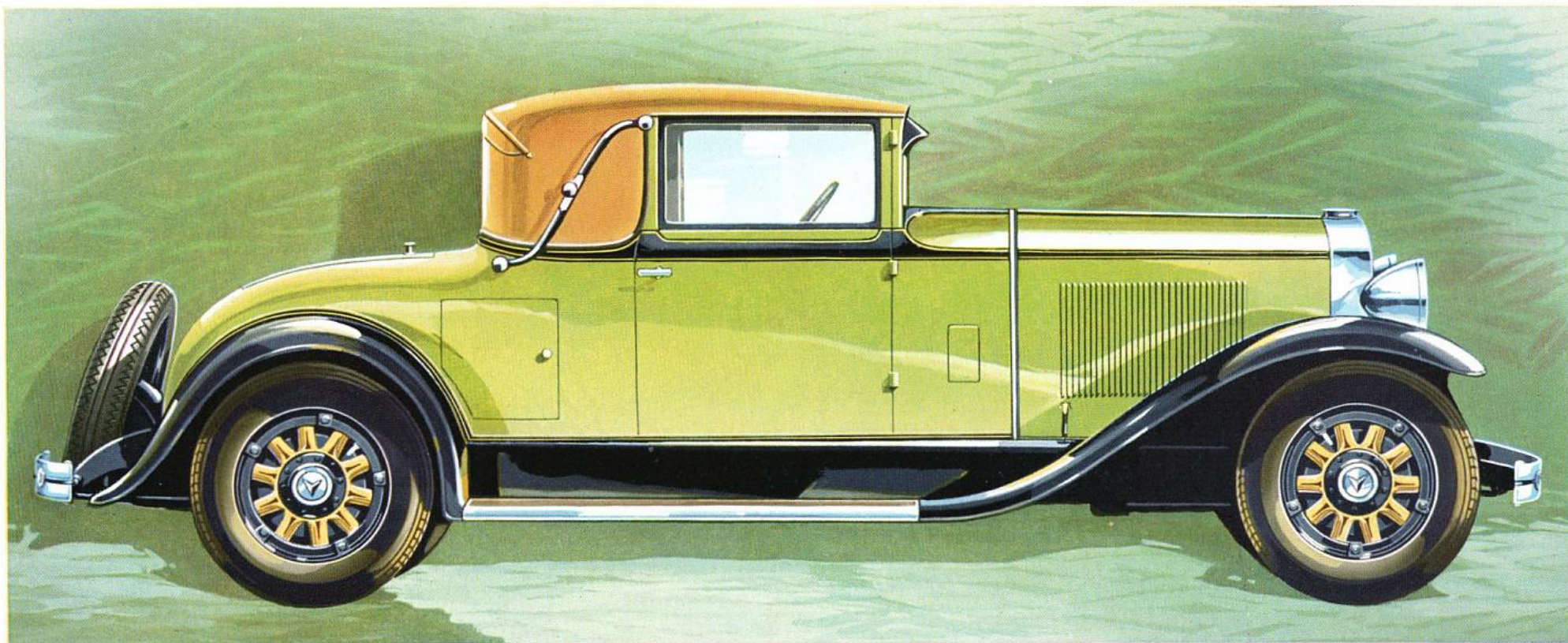
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T H E 9 0 - D E G R E E V - E I G H T A T M E D I U M P R I C E

EFFICIENT LUBRICATION

THE new Viking engine has a remarkable lubricating system. Oil is pumped under pressure direct to the main, connecting rod, and camshaft bearings. Pressure lubrication is also extended through rifle-drilled passages in the connecting rods to piston pins, and through the rocker arm main shaft to all rocker arm bearings. The pump is submerged in the oil pan, where the flow of oil is positive. Crankcase ventilation prevents excessive oil dilution. And injurious foreign matter is removed by the new and exclusive Viking precipitating-trap oil cleaner and dual air cleaners. Generous water spaces, extending below the cylinder walls, assist in maintaining lubricating oil at an efficient temperature.





VIKING CONVERTIBLE COUPE WITH REAR DECK SEAT

AMONG the most enjoyable features of the new Viking are its driving convenience and handling ease. The entire front seat may be moved instantly forward or backward to suit the driver. The steering wheel is also adjustable. Both gear shift and clutch action are exceptionally smooth and quiet. The worm and split nut steering gear and short turning radius assure finger-tip steering and easy parking. The doors on all models are unusually wide and contribute to the comfort that characterizes every feature of the Viking.

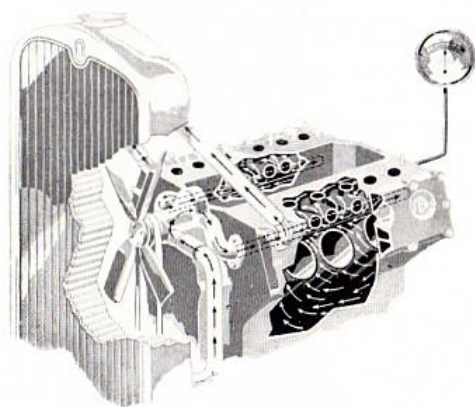


The Fisher adjustable front seat and Viking's adjustable steering wheel combine to suit each driver's individual stature

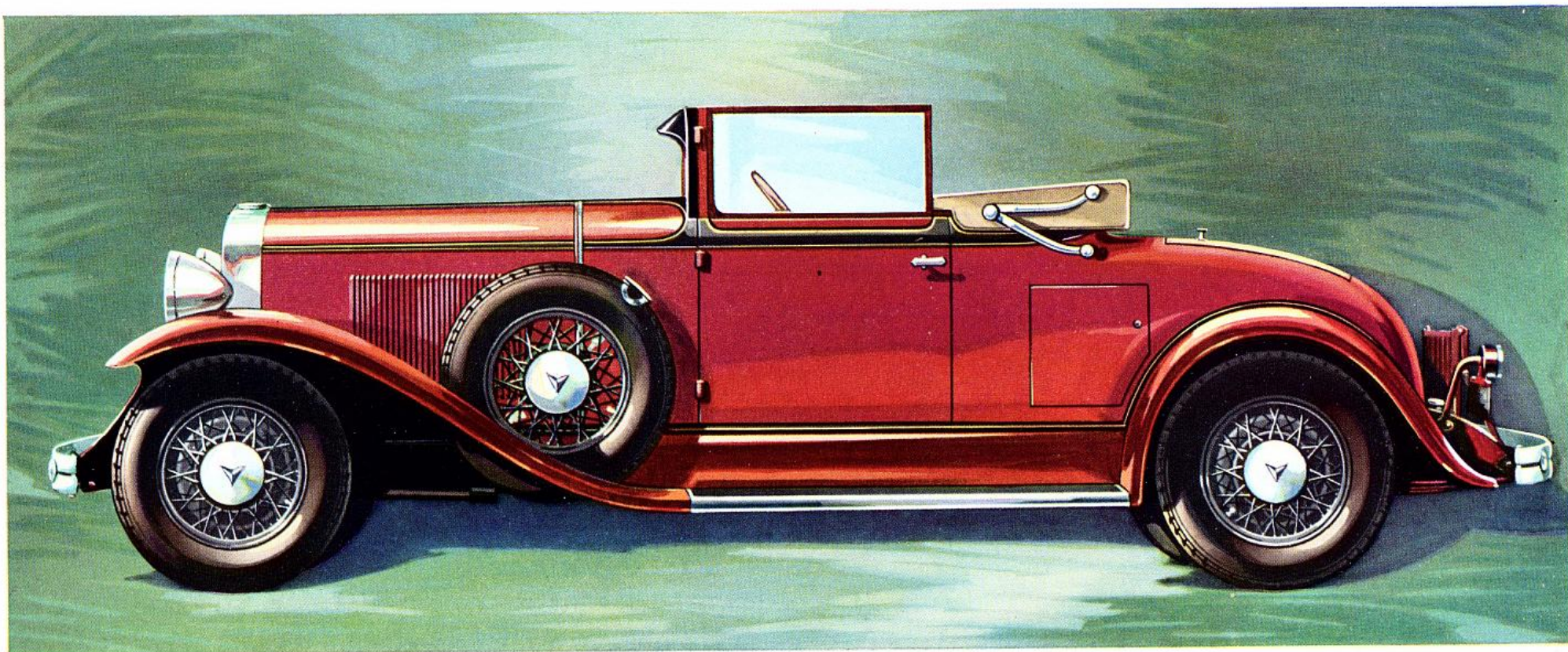
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T H E 9 0 - D E G R E E V - E I G H T A T M E D I U M P R I C E

A DISTINCT ENGINEERING ADVANCEMENT IN THE COOLING SYSTEM



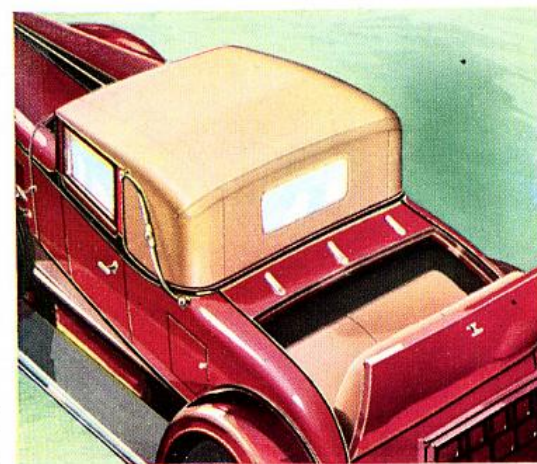
UNIFORM, efficient cooling of the entire engine is assured by equal manifold distribution of the water in the twin blocks, with graduated outlets direct to points of greatest heat. The accompanying diagram shows how completely the cylinder walls, valves, valve-stem guides, and combustion chambers are water-jacketed. The water space extends far down on the crankcase wall beyond the line of piston travel to assist in keeping the lubricating oil at the proper running temperature. The engine thermo-gauge, which is located on the dash, shows the actual temperature of the water circulating in the engine. Thermostatically controlled radiator shutters are standard equipment.



VIKING DELUXE CONVERTIBLE COUPE WITH REAR DECK SEAT

THE bodies of the new Viking are the smartest, latest style creations of Fisher artist-engineers. In designing the Viking, they sought distinction along the most difficult path—the achievement of beauty and grace through simple lines. The result justifies their diligence, for the new Viking takes its place among the smartest of cars, regardless of price. And Viking bodies are as sturdy as they are beautiful, due to Fisher combination wood-and-steel construction. Flush door construction, the generous fabric beading between metal surfaces, and the use of non-shatterable plate glass in the windshield are details that indicate the quality standards throughout the Viking.

The Convertible Coupe rear deck seat is trimly upholstered and affords ample space for two additional passengers, and with the top down affords an intimate sport car.

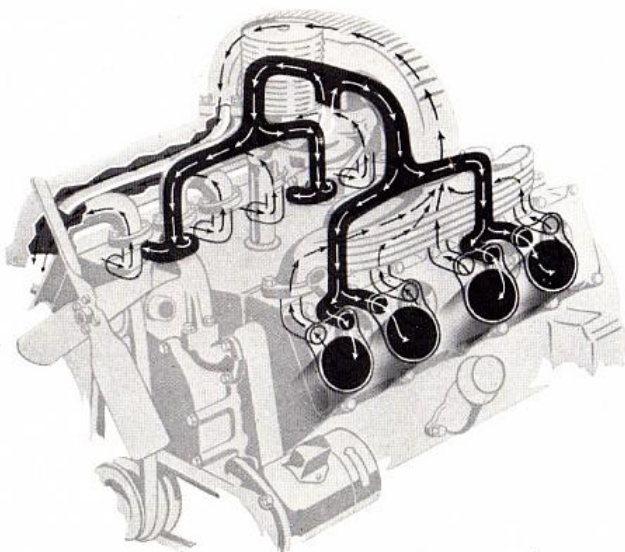


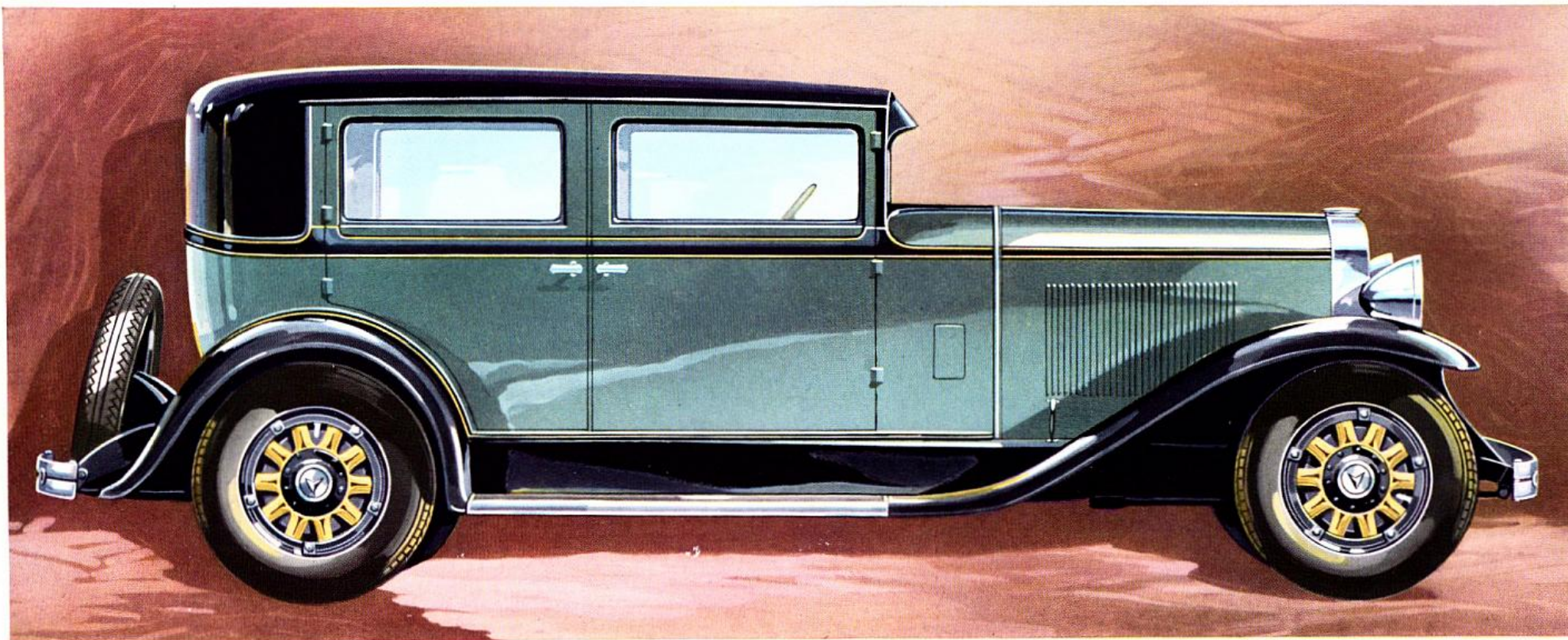
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T H E 9 0 - D E G R E E V - E I G H T A T M E D I U M P R I C E

EQUIDISTANT, DOWN-DRAFT FUEL DISTRIBUTION

A DISTINCT advancement in efficient fuel distribution results from a new type of intake manifolding based on the down-draft principle. As shown in the diagram, the manifold is so designed that the distance from the carburetor to all cylinders is precisely equal, providing a fuel mixture of uniform quality. After leaving the carburetor, the path of the fuel vapor is always downward, assisted by gravity. A positive-pressure pump supplies a constant flow of gasoline to the carburetor. An air cleaner removes foreign particles from the air before it reaches the carburetor. Fuel gases are preheated by a manually controlled hot-spot at the center of the intake manifold.

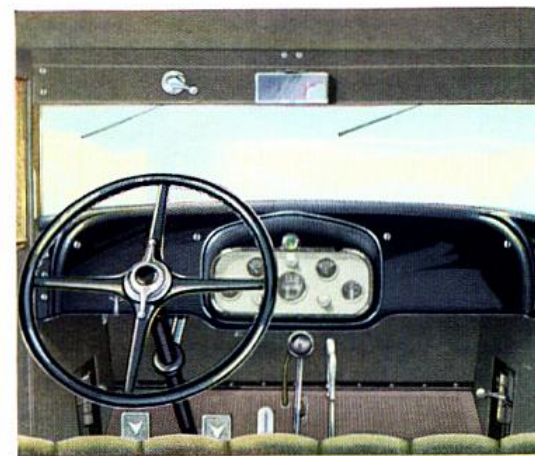




VIKING CLOSE-COUPLED FOUR-DOOR SEDAN

IN keeping with their beauty, Viking bodies by Fisher are luxuriously finished. Artistic inlaid wood panels under the windows carry out the V-motif which predominates in the design. The upholstery material is genuine silken finish mohair, in colors selected to harmonize with exterior finishes. The Convertible Coupe is upholstered in leather. Appointments and hardware of dignified pattern are expressive of fine car luxury. The front compartment is equipped with side ventilators, operated by a foot lever, to supplement the controlled ventilation afforded by the Fisher VV windshield. All dash instruments are conveniently grouped on a handsome panel, with a direct and indirect . . . two-way . . . lighting system.

Instruments are grouped on a handsome panel, the windshield is the famous VV (vision-ventilating) Fisher type, and clutch and brake pedals have rubber pads

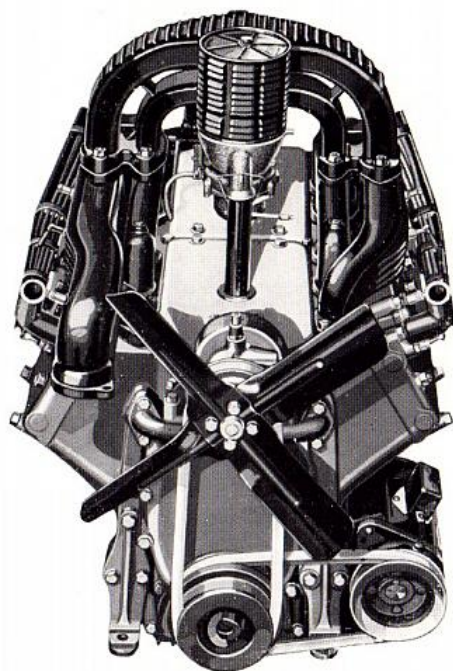


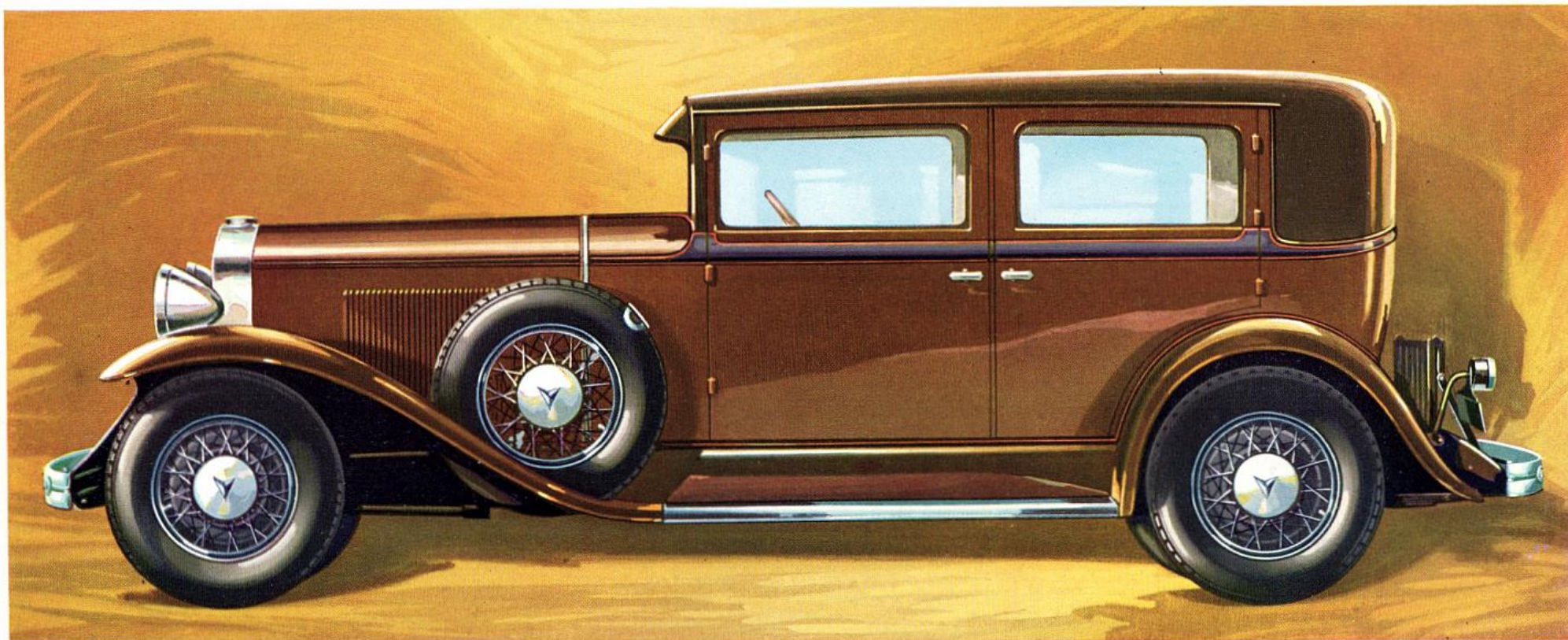
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T H E 9 0 - D E G R E E V - E I G H T A T M E D I U M P R I C E

SIMPLICITY AND ACCESSIBILITY

THE entirely new arrangement of the valve mechanism in the Viking engine is another important advancement in automotive engineering practice. The valves are set in a horizontal position, and are actuated by rocker arms direct from a central camshaft. Simplicity, accessibility, rigidity, silence, thorough cooling, and efficient use of fuel are outstanding characteristics of this arrangement. The valves are more accessible than in engines of conventional design, since they may be easily reached by lifting two cover plates located on top of the engine.





VIKING De LUXE CLOSE-COUPLED FOUR-DOOR SEDAN

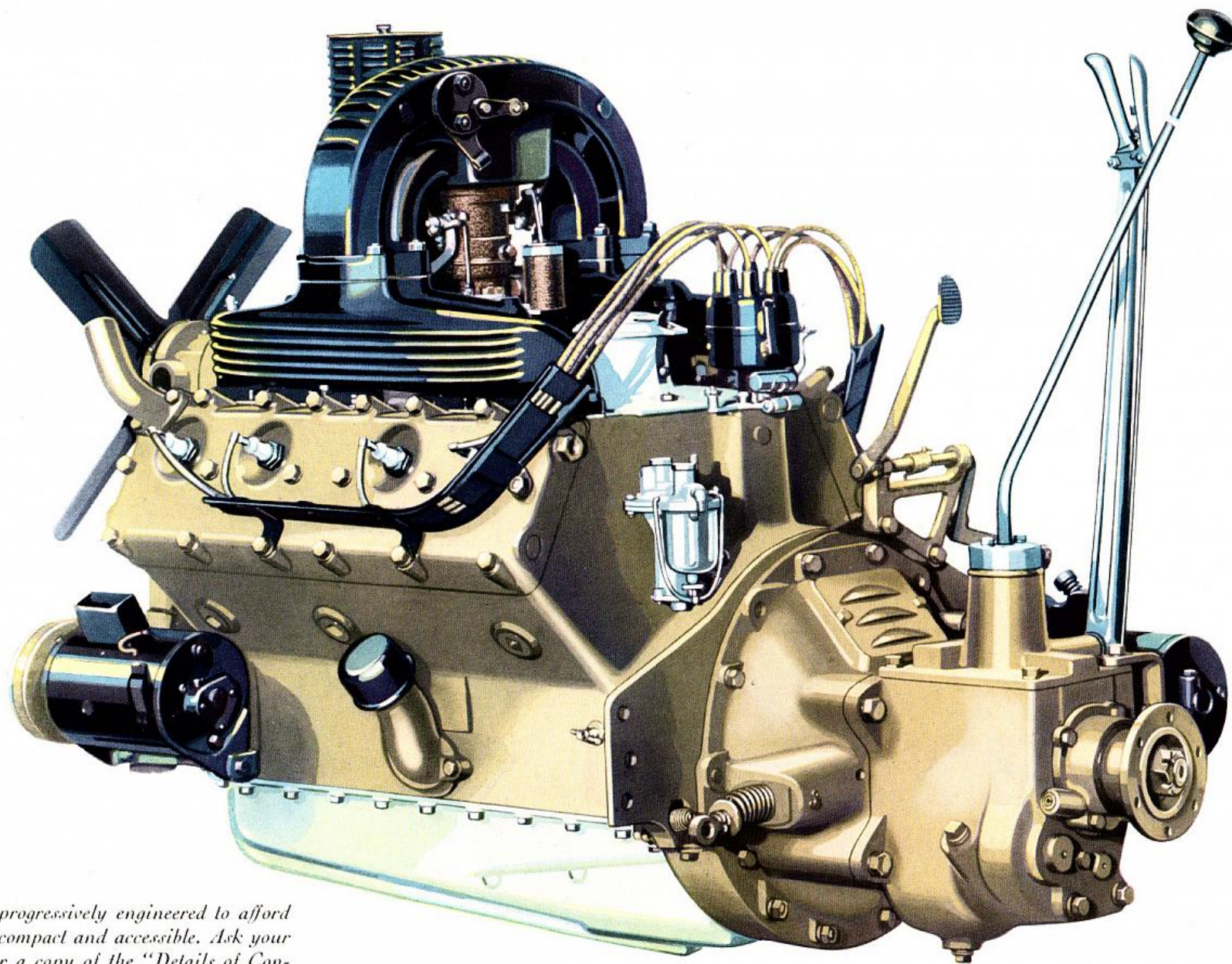
VIKING standard equipment includes four Lovejoy hydraulic shock absorbers, twin-beam headlamps with offset parking bulbs, gasoline gauge and engine temperature gauge on the dash, chromium plating on headlamps, lamp supports, radiator, and cowl band; stop light, rear view mirror, twin-blade automatic windshield wiper, and complete interior equipment, including a vanity case. De Luxe models are fully equipped with six wire wheels, six tires and tubes, fender wells with a special holding and locking device for spare wheels and tires, folding trunk rack, and chromium-plated bumpers front and rear.

De Luxe models have an attractive folding trunk rack. From the rear, as from every angle, the Viking presents a graceful, trimly tailored appearance



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T H E 9 0 - D E G R E E V - E I G H T A T M E D I U M P R I C E



81 horsepower—progressively engineered to afford smooth, flexible, compact and accessible. Ask your Viking dealer for a copy of the "Details of Construction" book that pictures and describes in detail the advantages and advancements of this remarkable power plant



A TRIUMPH OF MODERN ENGINEERING

AN entirely new car, the Viking—a product of General Motors, built by Oldsmobile—brings to the medium-price field the definite advantages of compensated 90-degree, V-type, eight-cylinder design.

Never before has any medium-priced car offered more completely balanced performance, more brilliant styling, more luxurious comfort. Never has there been a more significant event in automotive history than the introduction—in the Viking—of this combination of features and advantages to the medium-price field. For three years, Oldsmobile and General Motors engineers were busy proving and checking all types of eight-cylinder car design—seeking to find the best. At their command were placed all the vast resources of General Motors.

They approached the task with an open mind, not committed to any design. They investigated every type of automobile engine, past and present—developed other engines—and submitted all to the same rigid tests. By constant testing and retesting, checking and rechecking, they eliminated engine after engine, until one stood out above all the others—and the 90-degree, V-type eight won its place under the Viking's hood.

As perfected, the Viking reveals a number of interesting exclusive features as pictured and described on the following pages. The ingenious method for cleaning the oil; the rigid integral wall, reinforcing the engine structure front and back; the unusual volume and circulating efficiency of water in the cooling system; the horizontal

valve layout with its assurance of high efficiency and utmost accessibility; the complete provision for positive pressure lubrication; the positive balance of the short, rigid crankshaft and all reciprocating parts—all these were especially developed for the Viking and contribute to its exclusive qualities of performance, efficiency, and value.

The same progressive fundamentals of established engineering principles extend to every item of Viking chassis construction. The frame is rugged, with heavy bracing and gussets at points of unusual stress.

Mechanical brakes are internal-expanding type on all four wheels—positive, powerful, easy-acting.

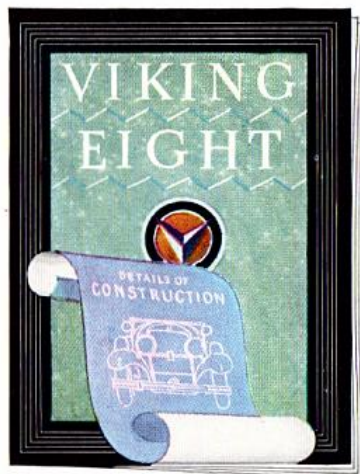
Springs are mounted with rattle-proof, self-lubricating shackles and are equipped with a full set of four Lovejoy hydraulic shock absorbers.

Equipment is complete, including thermostatically controlled radiator shutters.

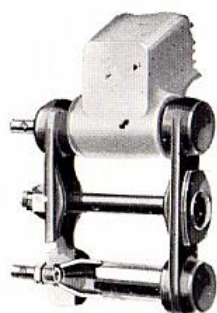
Exceptionally simple design prevails throughout the mechanism, as is evidenced by such details as the simple mounting of the fuel pump, carburetor, and air cleaner.

Viking bodies are built by Fisher, and embody the unsurpassed skill in design and workmanship which have made Fisher world-famous for fine coachwork.

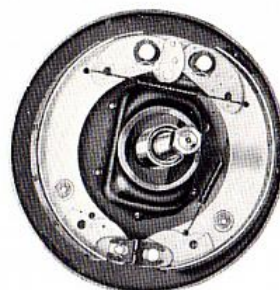
In every way, the Viking is worthy of its name and of the combined resources of General Motors, Oldsmobile, and Fisher Body, which made possible the introduction of these many features to the medium-price field for the first time.



Ask your Viking dealer for a copy of the "Details of Construction" book that tells you and illustrates for you in greater detail the mechanical and engineering advantages of both the engine and chassis of the Viking



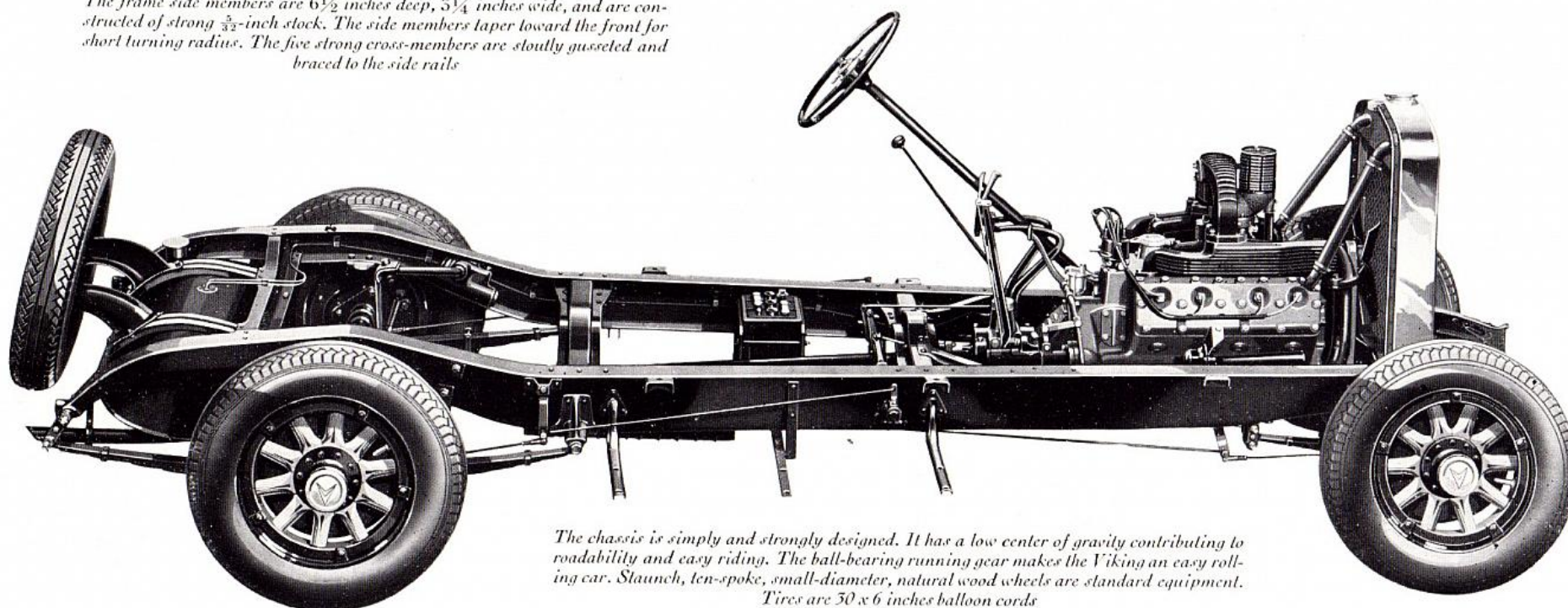
The rear ends of springs are mounted in self-adjusting spring shackles. The shackle pins are hollow hardened steel and, when packed with grease three or four times a year, supply constant lubrication. Special design, including a tension spring, automatically takes up wear between the tapering pin ends and the shackle plates.



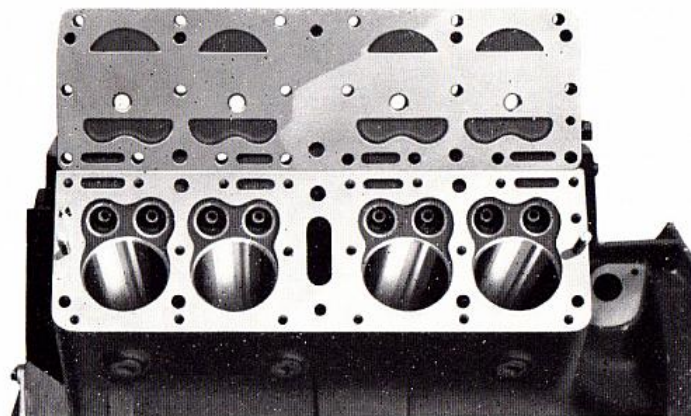
Safety of the Viking is enhanced by a braking system adequate to control its spirited performance. Front and rear brakes are the new two-shoe, internal-expanding type. They are self-centering and self-energizing. The maximum braking surface on the inside of the drum is brought into effective use.



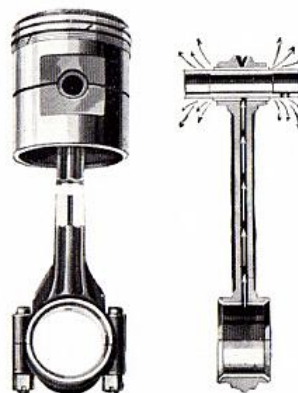
The frame side members are $6\frac{1}{2}$ inches deep, $5\frac{1}{4}$ inches wide, and are constructed of strong $\frac{3}{8}$ -inch stock. The side members taper toward the front for short turning radius. The five strong cross-members are stoutly gusseted and braced to the side rails.



The chassis is simply and strongly designed. It has a low center of gravity contributing to roadability and easy riding. The ball-bearing running gear makes the Viking an easy-rolling car. Staunch, ten-spoke, small-diameter, natural wood wheels are standard equipment. Tires are 50 x 6 inches balloon cords.

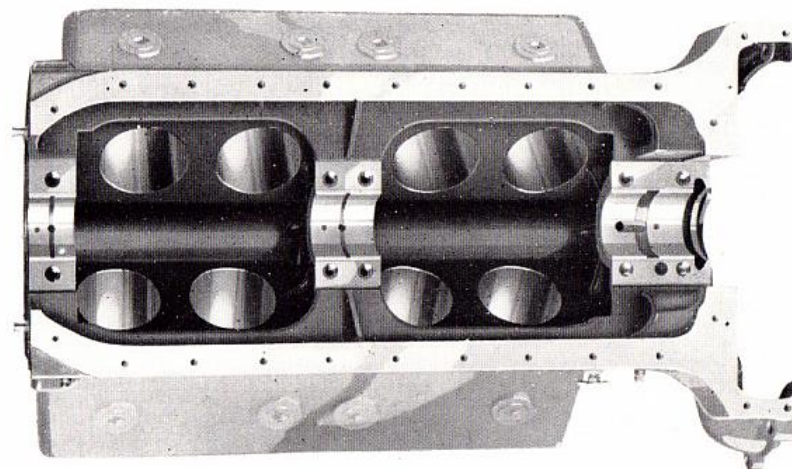
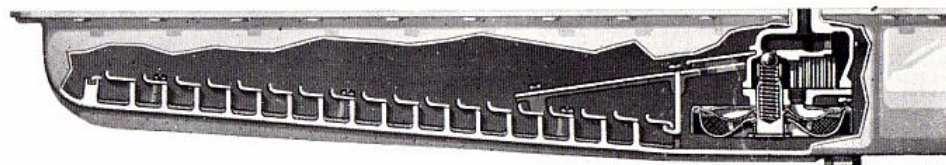


The cylinders are honed to a glass-like smoothness. High-compression performance without the use of special fuel is possible because of the advanced design of the Viking combustion chamber and the new horizontal valve arrangement which promotes full fuel efficiency



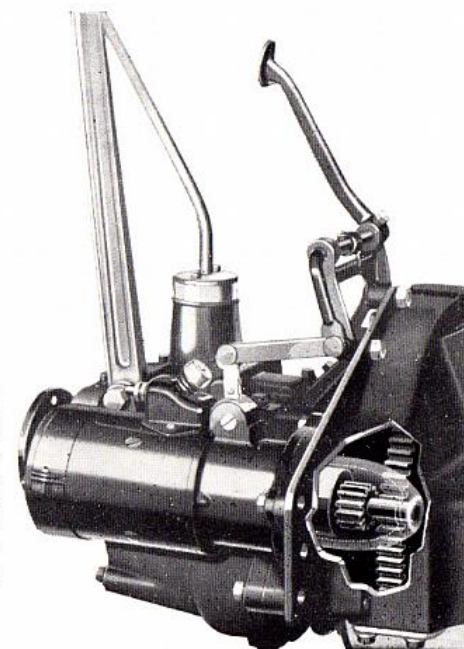
A feature characteristic of the advanced engineering design that marks every detail of Viking construction is the rifle-drilling of the connecting rods to permit full-pressure lubrication of piston pins . . . assuring dependable, quiet, long life

An exclusive engineering development of the Viking is the new precipitating-trap method of oil cleaning



Vibration is defeated at its source in the Viking power plant. The monoblock construction of the crankcase and cylinder block is rigid and compact, maintaining correct alignment of working parts

A distinct improvement over conventional design is represented by the manual starting mechanism of the Viking, which assures positive engagement of the starting gear with the flywheel before the starting motor is applied. The pedal depresses in two stages . . . first, mechanically meshing the gears, and second, switching on the starting motor



ARTISTRY AND MASTER COACHWORK BY FISHER

BODY design, no less than mechanical excellence, makes the Viking the outstanding value in the medium-price group. All the bodies are Fisher-built . . . a fact which recommends in highest terms their charm, their construction, and the comfort they afford.

Equally with performance ability, a car today must have style. Its lines, its finish, its details of design must be in harmony with prevailing modes to be acceptable to the public.

It must ride comfortably, not only in the sense of roadworthiness in the chassis, but also in the sense that cushions must be restful and body construction must be so strong and precise that it travels over the roads steadily, without squeaks or body rumbles.

These are matters of coachcraft. The body, equally with the chassis, must be right.

Fisher Body is admittedly entitled to chief credit for the development of the motor car closed body into the harmonious, serviceable, and luxurious work of art which is today represented in the Viking. Fisher has enlisted the services of master artist-engineers to the beautification of the Viking. Fisher has raised the standards of automobile body construction, pioneered many of the predominant construction and comfort features of the finest current practice as is exemplified by the Viking. Fisher has assembled a wealth of resources for body building and controls its supply of basic materials and the processes of their manufacture.

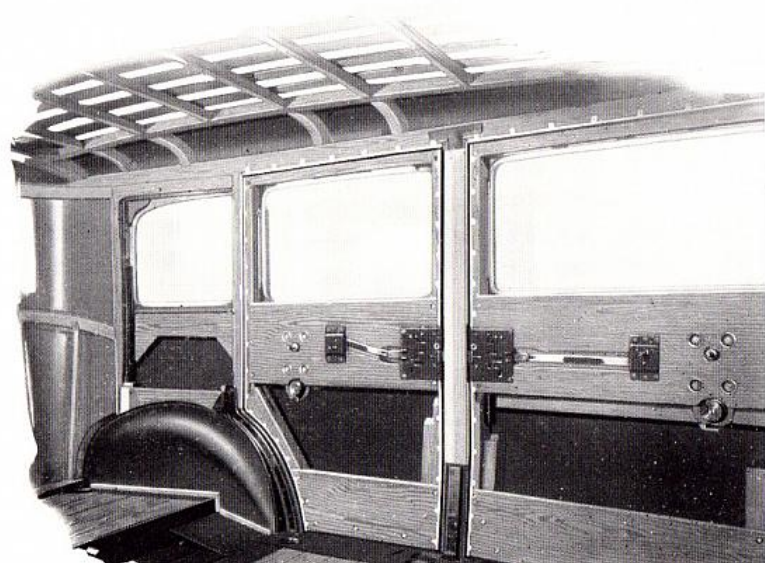
From the beginning, Fisher has always built to the highest standards of strength and durability. Fisher was the first to apply to the production of motor car bodies methods similar to those employed in the manufacture of the chassis. Special tools, jigs, and dies, costing hundreds of thousands of dollars, were made as the primary steps in the manufacture of Viking bodies. And rigorous inspection standards at every stage of manufacture assure the quality of the finished product.

The Viking carries beauty, comfort, safety, and durability to a new perfection in its luxurious bodies by Fisher.

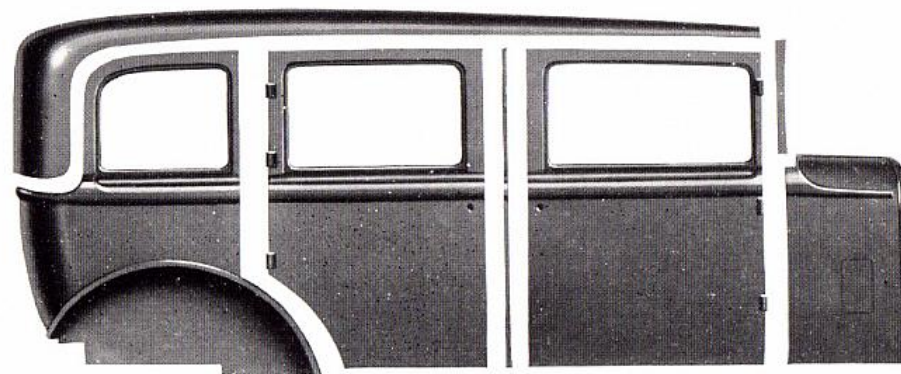
The Viking bodies have value, apparent and hidden, that is characteristic of the greatest possible luxury in motoring.

For maximum strength, resiliency, and safety, Viking bodies are of composite construction in which wood reinforces steel and steel reinforces wood. Frames are made of selected hardwood with joints mortised, wedged, glued, screwed, and bolted, and reinforced with steel corner braces. Fine steel-faced dies exert hundreds of tons of pressure in forming the body panels from sheet steel blanks. The result produced is a smooth, even surface that develops the lacquer finishes to richest effects. An item that adds greatly to driving comfort is the fully adjustable front seat in all models. This exclusive Fisher development is remarkable for its convenience and easy operation. A few

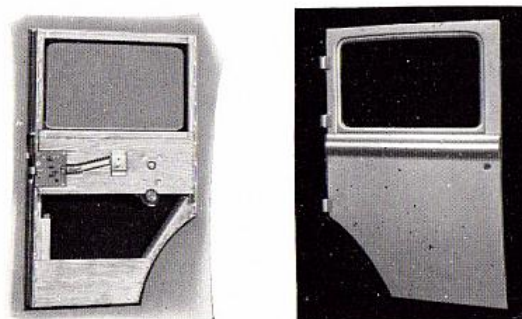




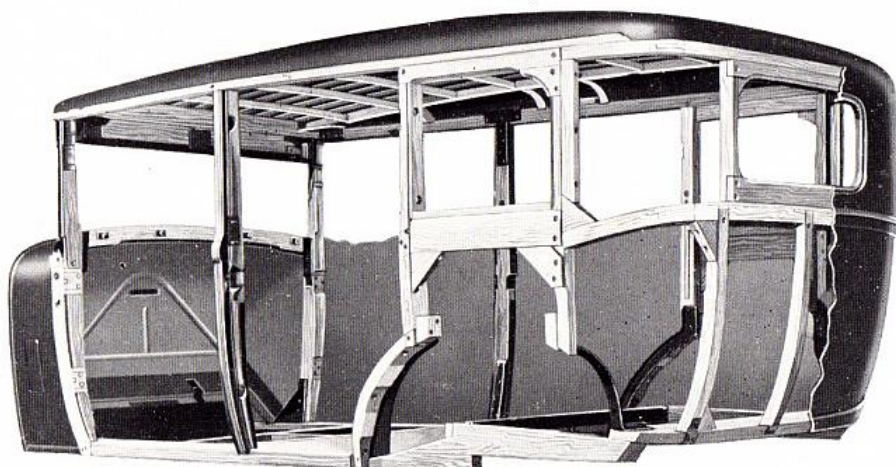
Body frame members are built into a solid structure with operating hardware as integral units



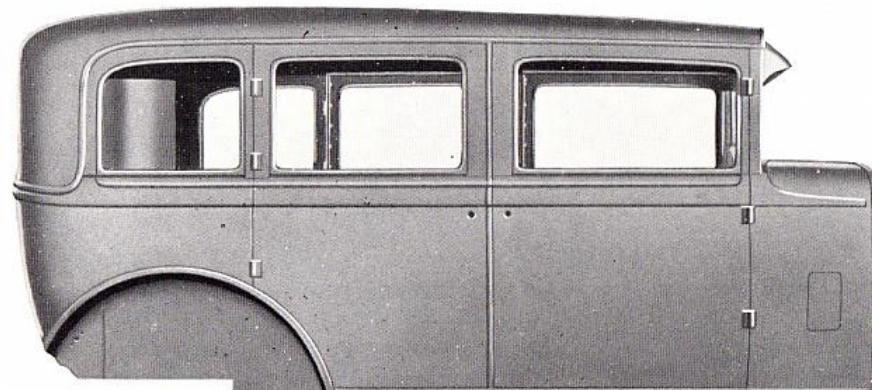
Costly, steel-faced dies form these panels with a smooth, even surface



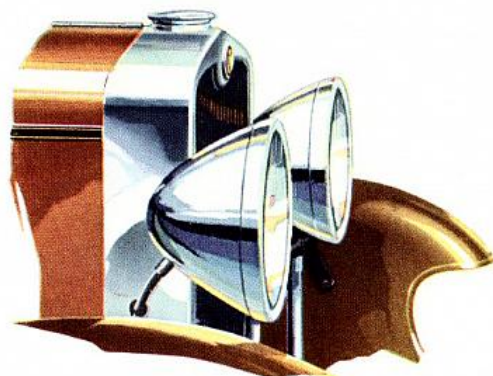
Door frames are built for maximum strength



Solidly braced against stress in every direction, Fisher-Viking body frames are strong, resilient, and safe



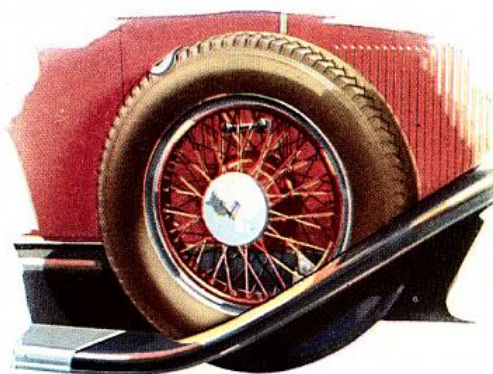
Assembled into modish, comfortable, long-lived "Body by Fisher"



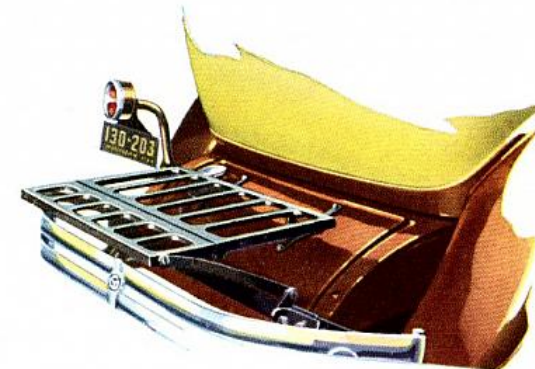
All headlamps are fully chromium-plated and attractively mounted on plated posts. They are fitted with twin-beam bulbs, the most advanced type for lighting efficiency. Offset bulbs in these lamps serve as parking lights.

easy turns on an accessible control move the seat forward or back as desired at the moment, permitting the driver to sit at ease at exactly the distance he prefers from the wheel and pedals. The entire seat moves to position so that full support in correct posture is afforded at all times.

Furthermore, the position of the steering column and wheel is adjustable at the instrument panel if desired.

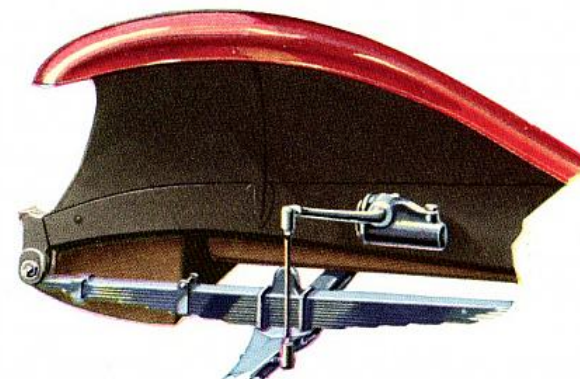


Devotees of the smart in motoring will delight in Viking De Luxe equipment, which includes six wire wheels with the spares mounted and locked in fender wells. The wheels are a handsome, sturdy type with large ornamental hub caps.



De Luxe models are fitted with a substantial trunk platform upon which luggage can be carried safely and conveniently out of the way. The shapely valance over the gasoline tank is standard on all Viking models.

The craftsmanship of artist-engineers is exemplified in the beauty and utility of the interior appointments of Viking bodies. Hardware is of attractive Butler finish, edged with bright nickel carrying a graceful scroll motif that harmonizes with the beauty and luxury inherent in every interior detail. Permanent beauty and freedom from tarnish are provided by the chromium plating of all exterior fittings. The upholstery material is a fine grade of mohair, a

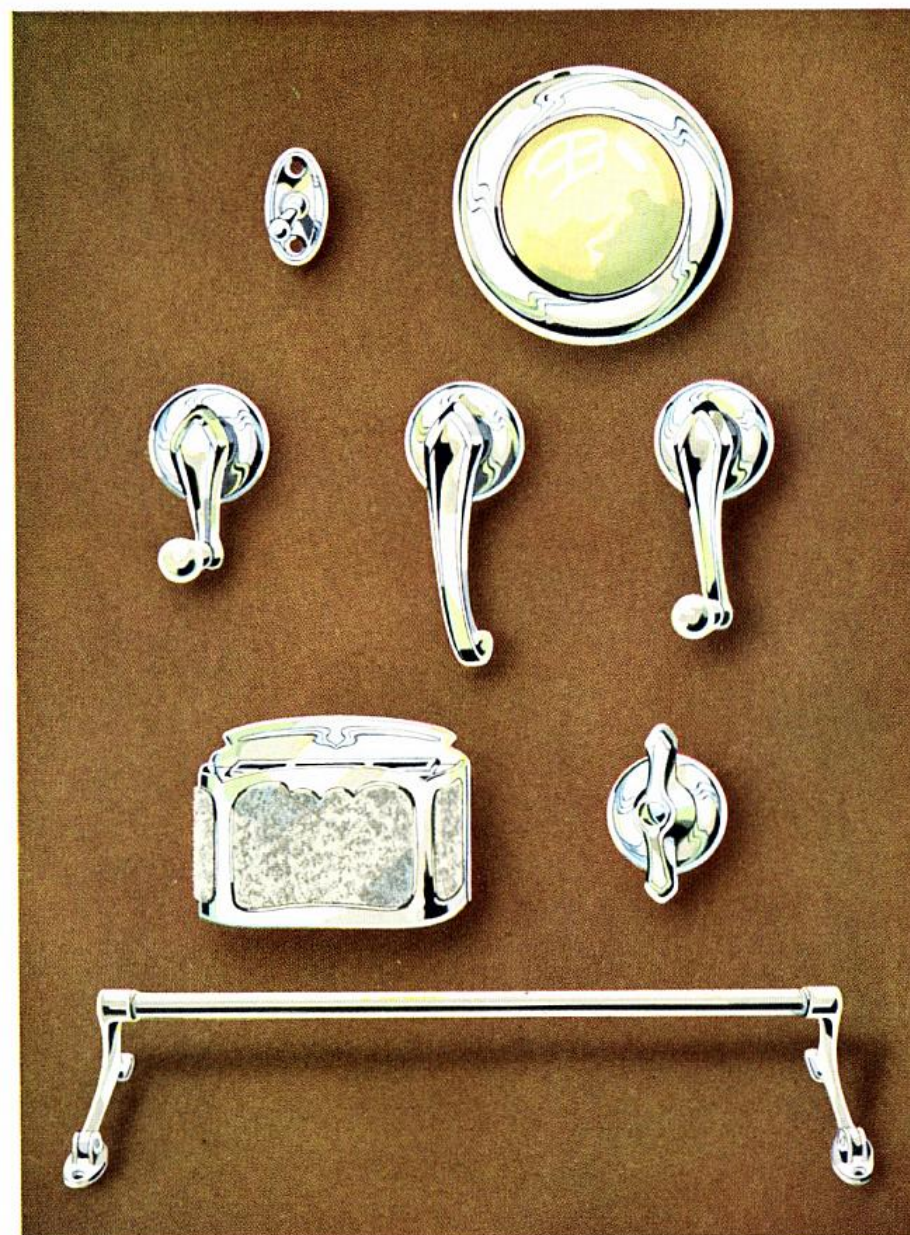
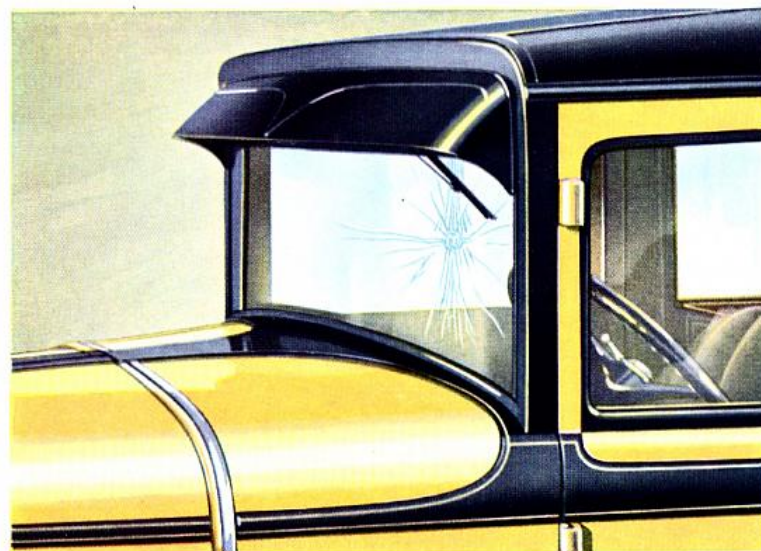


Riding ease in its utmost contemporary refinement is a Viking feature. The resilient spring suspension is supplemented by a full equipment of hydraulic shock absorbers, each one precisely adjusted to its spring. Note the trim and efficient mounting and steel rod connection.

fabric which combines beauty and long service. Silver gray in color, it lends a tone of richness to the interior decoration. The Fisher VV windshield is of non-shatterable plate glass. A new feature, contributing to driver comfort and assurance, is the slight tilting inward at the top of the windshield glass as a protection against glare.

Thus reflection from lights to the side or in back of the car is cast below the line of the driver's vision during night driving. The windshield is fitted with a trim cadet-type visor and equipped with an efficient, vacuum-type cleaner, whose mechanism is mounted outside the body for silence.

Really to appreciate the beauty and value of Fisher coachcraft, examine it at the same time that you try out the Viking mechanism. Together, they constitute a remarkable motor car value.



THE VIKING EIGHT SPECIFICATIONS

WHEELBASE—125 inches. Turning circle, 44½ feet. Road clearance, 8 inches.

ENGINE—90-degree, V-type, eight-cylinder design. Rubber mounted. Bore, 3⅝ inches; stroke, 3⅝ inches. Piston displacement, 259.5 cubic inches. N.A.C.C. rating, 36.5 horsepower. Dynamometer test, 81 horsepower at 3000 revolutions per minute.

CYLINDERS—Two banks of staggered cylinders set at 90 degrees in a single block of special alloy gray iron. Generous water jacketing around each cylinder.

MAIN BEARINGS—Three massive bronze-backed, babbit bearings. Front, 2½ inches x 1⅞ inches; center, 2⅞ inches x 2½ inches; and rear, 2½ inches x 3⅞ inches.

CRANKSHAFT—Two-plane design. Short and rugged. Drop-forged of heat-treated, high carbon content steel. Counter-balanced both at rest and in motion. Drilled passages distribute oil to connecting rod bearings. Weight, with four counterweights, approximately 85 pounds. Overall length 31⅝ inches.

CONNECTING RODS—I-beam type, 7⅞ inches long. Drop-forged of special analysis steel. Lower bearing 2 inches in diameter and 1⅞ inches long. Rifle-drilled throughout entire length for pressure lubrication of piston pins.

PISTONS—Cast of special gray iron and treated to maintain uniform expansion at all temperatures. Fitted with two compression and one oil regulating rings above piston pin. Piston pin, .855 inches in diameter and 3⅞ inches long, locked in piston.

VALVES—Horizontal arrangement. Intake, alloy steel, head diameter 1½ inches. Valve stem length 6⅞ inches, diameter ⅝ inch. Exhaust, Silchrome steel, head diameter 1½ inches. Stem length 6⅞ inches, diameter ⅜ inch. Valve spring pressure, with valve open, 87 pounds. Removable guides. Rocker cam followers rotating in removable rocker arms and completely enclosed.

CAMSHAFT—Drop-forged from heat-treated special steel, mounted in three large pressure oiled bearings. Front bearing, 2.247 inches diameter, 2⅝ inches in length; center, 2.122 inches diameter, 1⅞ inches in length; rear, 1.997 inches diameter, 2⅜ inches in length.

TIMING CHAIN—Silent chain, 1½ inches wide, 26 inches long. Drives camshaft.

LUBRICATING SYSTEM—Full-pressure feed to all main, connecting rod, and camshaft bearings, piston pins and rocker arms. Spray to other parts. Gear type oil pump, submerged in precipitating design oil pan, is driven by vertical shaft from camshaft. Oil pressure gauge on instrument panel and bayonet type gauge on crankcase. Crankcase capacity, 7 quarts. Two air cleaners, one attached to carburetor and one to breather tube on crankcase.

FUEL SYSTEM—Twenty-gallon tank mounted on rear of frame. Diaphragm type pump feed to carburetor. Pump equipped with strainer and sediment trap.

COOLING SYSTEM—Harrison hexagon honeycomb type radiator core with chromium-plated shell. Radiator capacity, 8¼ gallons. Controlled type, circulation forced by centrifugal pump in front end of cylinder block. Four-blade adjustable fan driven by V-type belt.

IGNITION—Delco-Remy distributor mounted at rear of engine; furnished with cut-out relay and thermostatic current control. Semi-automatic spark control with auxiliary hand adjustment for idling and pulling.

BATTERY—6-volt, 15-plate storage battery; 100 ampere hours capacity.

STARTING MOTOR—Delco-Remy, with positive mechanical engagement of starting gear. Located on right side of flywheel housing. Steel ring gear pressed on flywheel.

LIGHTING—Headlamps of depressed beam type, controlled from steering wheel. Parking bulbs in headlamps. Stop light and rear light in one unit with enclosed wiring.

HORN—Delco-Remy, 6-volt. Vibrator type.

CLUTCH—Single plate, dry disc, 9⅞ inches in diameter. Spring cushioned, eliminating chatter. Two driving discs, one driven disc. Noiseless, flexible, and requires no lubrication or adjustment. Clutch release bearing of baked carbon-graphite, is self-lubricating and self-aligning.

TRANSMISSION—Unit with engine. Selective, sliding gear type, three speeds forward and reverse. Drop-forged, oil heat-treated, alloy steel gears. Main shaft mounted on best quality ball and roller bearings. Countershaft bearings of phosphor-bronze. Pilot bearing, Hyatt roller type. Speedometer drive gear in transmission.

TRANSMISSION GEAR RATIOS—1st speed, 3.11 to 1; 2nd speed, 1.69 to 1; 3rd speed, 1.00 to 1; reverse, 3.78 to 1.

UNIVERSALS—Trunnion metal joints at front and rear, sliding joint at front.

PROPELLER SHAFT—Two-piece, tubular, tapered type. Diameter, 2½ inches.

FRONT AXLE—Reverse Elliott type. Drop-forged, heat-treated, I-beam between spring seats, elliptical beyond. Ball thrust spindle mounting. Jack clearance, 7⅞ inches.

REAR AXLE—¾-floating. Electrically welded banjo type, one-piece, pressed steel housing. Final drive, spiral bevel. Two large ball bearings, one double and one single, in front of pinion. Axle and wheel bearings, dust and oil-tight. Gear ratio is 4.63 to 1. Clearance for jack, 7¼ inches.

BRAKES—Mechanical, two-shoe type, front and rear. Internal-expanding, self-energizing, front and rear. Molded brake linings, 2 inches wide and 30⅝ inches long per wheel. Both pedal and service or hand brake operate all four wheels. Total brake area, 243 square inches.

SPRINGS—Semi-elliptic, carbon steel front and silico-manganese steel rear. Front and rear springs, 2 inches wide. Front spring length, 37 inches; rear spring length, 58 inches.

STEERING GEAR—Semi-reversible worm and split nut type. Steering column braced to dash and adjustable to various positions. Ratio, 17.1 to 1.

FRAME—Pressed, carbon steel. Channel section, 6½ inches deep, 3¼ inches wide, 5½-inch stock. Five heavy cross-members rigidly gusseted to frame.

WHEELS—Artillery type, ten-spoke, natural finish. 18-inch rim, ball bearing.

TIRES—30 x 6.00 inches, non-skid balloon cord.

SHOCK ABSORBERS—Four Lovejoy hydraulic shock absorbers are standard equipment on all models.

CHASSIS LUBRICATION—High-pressure system.

RUNNING BOARDS—Covered with heavy composition (corrugated) and bound with chromium-plated molding.

FENDERS—Extra wide, full-crown type.

BODY TYPES—Four-Door Sedan, Close-Coupled Sedan, and Convertible Coupe, all available with standard, special, or deluxe equipment.

The Olds Motor Works reserves the right to make changes in prices and specifications without incurring any obligation to install same on cars already sold. Bumpers and spare tire extra on all standard models

Ask your dealer for copies of the Viking "Price and Detailed Specification" folder and the Viking "Details of Construction" book

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